Chapter Four
Consequences of Health Problems

Health consequence consists of quality of life, use of health services, use of medication, short-term and long term disability, and others.[1]

Quality of life is partially addressed in section 3.1 of this report. We are not able to analyze health service and medication utilization data because they are currently not available to us. The same is true for disability data. We are currently addressing the issue of lack of data sources and expect that at least part of these data will be presented in the next edition of his report.

Reference:

1. Bernier L, Sauvageau Y, et al. *User's Guide to 40 Community Health Indicators*. Health and Welfare Canada; 1992.

Related Indicators

- Leading causes of death
- Years of potential life lost
- Ten most frequently reported notifiable diseases/conditions
- Sexually transmitted diseases
- Cancer incidence

4.1 Economic Dimension of Health Problems

Background

The economic dimension of health consequences has become a common topic in public health recently.[1-8] Translating health consequences into currency allows us to make comparisons among different health outcomes. It also allows us to document the economic burden of disease, injury, and disability in the community and to demonstrate the costs, benefits, effectiveness, and utility of public health interventions. In this section, we apply economic analysis results from literature to selected local data to approximate the economic burden of health problems in our community. Please note that economic analysis of health consequences is not without limitations. For example, mortality cost estimation requires very restrictive assumptions about employment patterns, replacement cost, and labor market trends. [3]

Findings

Numerous studies translate disease burdens into an actual currency. Estimated costs for selected conditions in the United States are summarized in Table 49.

Table 49. Estimated Cost of Health Conditions in U.S.[1-8]

Condition	1st year Cost of Treatment/patient	Overall Cost
Coronary heart disease	$30,000	$6.99 billion/year
Cancer		Breast: $2.32 billion/year
		Endometrial:$0.79 billion/year
		Colon: $2.79 billion/year
	Lung: $29,000	
	Cervical: $28,000	
		All: $104 billion
Stroke	Hip fracture: $40,000	
	Quadriplegia: $570,000 (lifetime)	
		All: $30 billion
HIV	$20,000 per year	$7-8 billion/year
Low birth weight	$10,000	
Congenital rubella syndrome	$354, 000 (lifetime)	
Smoking	$3,391 per year	$157.7 billion/year
Type II diabetes		$63.14 billion/year
Osteoarthritis		$18.31 billion/year
Obesity		$99.2 billion/year
Food-borne diseases		$2.9-6.7 billion/year
Diabetes		$93 billion
Depression		$44 billion
Injury	Mortality cost: $307,636 per death	
	$2,772 per injured person	$157.6 billion (1995)

During a 10 - year period from 1991 - 2000, 2,147 persons in Nashville died of injury. This represents a $1.09 billion cost to Nashville.

Applying these estimates to local data, we may be able to gain a perspective of economic dimension of health consequences in our community. In the following examples, injury death and HIV/AIDS data are used to demonstrate economic cost of disease burden in Nashville.

According to a 1985 cost of injury study, injury cost is $2,772 per injured person in 1985 dollars,[3] or $ 4,573 in 2002 dollars; mortality cost is $ 307,636 per injury death, or $507,485 in 2002 dollars. During a 10-year period from 1991-2000, 2,147 persons in Nashville died of injury. This represents a $1.09 billion cost to Nashville.

According to a 2000 study of cost of treating persons with HIV disease, average annual cost were between $20,000 to $24,700 per person.[7] In Nashville, there were 277 cases of AIDS and 248 cases of HIV reported in 2000. Cost of treating AIDS per year is estimated at between $5.5 million and $6.8 million. If eventually we have to treat HIV cases as well, the cost will jump to between $10.5 and $13 million.

Discussion

Consequences of health problems are closely related to health status. Health consequences affect both the individuals and society. Using HIV/AIDS as an example, most people with HIV/AIDS depend on public sources to pay for their needed health care services.[7] As a result, this suggests that even though the majority of citizens in Nashville do not have HIV/AIDS, the economic burden of caring for HIV/AIDS patients is on the entire community. Therefore, it is important for every citizen to work collectively to address the consequences of health problems in our community.

References:

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2. Brown ML, Lipscomb J, and Snyder C. The burden of illness of cancer: economic cost and quality of life. *Annual Review of Public Health*. 2001;Vol. 22.
3. Rice DP, Mackenzie EJ, et al. Cost of Injury in the United States, A Report to Congress 1989. San Francisco, CA: Institute for Health and Aging, University of California and Injury Prevention Center, The Johns Hopkins University; 1989.
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5. Shape Up America. The costs of obesity are "staggering" but women are paying the highest price, says Dr. Koop [online]. The Shape Up America page. Available at: http://www.shapeup.org/dated/031698.htm. Accessed May 22, 2002.
6. McClam E. CDC estimates cost of smoking on society [online]. The Nando Media page. Available at: http://www.nando.net/healthscience/v-text/story/356456p-2899253c.html. Accessed May 22, 2002.
7. Hellinger FJ, Fleishman JA. Estimating the national cost of treating people with HIV disease: patient, payer, and provider data. *Journal of Acquired Immunodeficiency Syndrome*. June 2000;24, 182-188.
8. Buzby JC, Roberts T, Lin CTJ, MacDonald JM. Bacterial Foodborne Disease: Medical Costs and Productivity Loses. Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 741, August 1996.